



A Cross-Sectional Study of Epistaxis: Etiologic and Clinical Characteristics

Epistaksis Üzerine Kesitsel Bir Çalışma: Etyolojik ve Klinik Özellikler

A Cross-Sectional Study of Epistaxis

Abdulkadir Özgür, Mehmet Birinci, Zerrin Özergin Coşkun, Suat Terzi, Özlem Çelebi Erdivanlı, Münir Demirci, Engin Dursun
Recep Tayyip Erdogan University, Medical Faculty, Department of Otorhinolaryngology, Rize, Turkey

Özet

Amaç: Bu çalışmada üçüncü basamak bir sağlık kuruluşu olan hastanemize bir yıl içerisinde epistaksis nedeni ile başvuran hastaların etyolojik, klinik ve demografik özellikleri ile uygulanan tedavi yöntemlerinin değerlendirilmesi amaçlanmıştır. **Gereç ve Yöntem:** Çalışmaya bir yıl içerisinde (1 Aralık 2014 - 1 Aralık 2015) Kulak Burun Boğaz Hastalıkları Kliniği'ne acil servisten konsültasyon istenerek veya direkt olarak başvuran ve hastanemiz bilgi kayıt sisteminde epistaksis tanısı konulan 589 hastadan kayıtlarında eksiklik tespit edilemeyen 558 hasta dahil edildi ve verileri retrospektif olarak incelendi. Etiyolojik faktörler, klinik özellikleri ve tedavi yaklaşımları incelendi. **Bulgular:** Epistaksis etiyolojisinde en sık üç faktör olarak travma, kardiyovasküler hastalıklar ve alerjik rinit tespit edildi. Başvuru esnasında aktif kanaması olan hasta sayısı 114 (% 20.4) iken aktif kanaması olmayan hasta sayısı 444 (% 79.6) olarak bulundu. Değerlendirilen hasta grubunda 24 hasta (% 4.3) yatırırlar tedavi edilirken, 534 (% 95.7) hasta ayakta tedavi edildi. Yatan hastaların ortalama yatış süresi ise 6 gün (3-23gün) olarak tespit edildi. **Tartışma:** Epistaksis hastalarında her ne kadar büyük bir kısmında kanama kendiliğinden sınırlansada düşük orandada olsa hayati tehdit edici sonuçlar görülebilir. Sunulan bu kesitsel çalışmanın kendi ülkemizdeki epistaksis etiyolojisinin değerlendirilmesi ve tedavisinin planlanması açısından literatüre katkı sağlayacağı kanaatindeyiz.

Anahtar Kelimeler

Epistaksis; Etiyolojik Faktörler; KBB Acilleri

Abstract

Aim: The aim of this study is to evaluate the etiologic, clinical, and demographic characteristics of patients who were examined for epistaxis in our department over a one-year period and to discuss treatment modalities. **Material and Method:** Patients who were admitted to our clinic with complaints of epistaxis between December 2014 and December 2015 were included in this cross-sectional study. The archival records of 589 patients were reviewed retrospectively, and 558 patients with sufficient archival records were included in the study group. Etiologic factors, clinical features, and treatment approaches were examined. **Results:** The leading factors for the etiology of epistaxis were trauma, cardiovascular disease, and allergic rhinitis. A total of 114 (20.4%) patients had active bleeding at admission whereas 444 (79.6%) had no active bleeding. In the evaluated group, 24 (4.3%) were hospitalized. The remaining 534 (95.7%) patients were treated as outpatients. The average length of stay was six days (3–23 days) for hospitalized patients. **Discussion:** Although the bleeding was self-limited in the majority of patients with epistaxis, life-threatening conditions have been known to occur on rare occasions. We believe that this cross-sectional study contributes to the literature by defining the etiology and treatment planning of epistaxis in our country.

Keywords

Epistaxis; Etiologic Factors; ENT Emergencies

DOI: 10.4328/JCAM.4336

Received: 25.01.2016 Accepted: 08.02.2016 Printed: 01.11.2016

J Clin Anal Med 2016;7(6): 804-6

Corresponding Author: Abdulkadir Özgür, Recep Tayyip Erdogan University, Islampasa Mahallesi, Sehitler Caddesi, No: 74, 53020, Rize, Turkey.

T.: +90 4642130491 F.: +90 4642170364 E-Mail: akozgur53@gmail.com

Introduction

Epistaxis (nosebleeds) is one of the most common symptoms faced in ear, nose, and throat emergencies and affects about 10–15% of the population. The lifetime prevalence among the general population is about 60%, and 10% of these cases may require medical and/or surgical interventions [1-3]. Although it is more common over the age of 50 and under 10 years of age, epistaxis can be seen in all age groups [4,5]. Local factors, such as trauma, septal deviation, rhinitis, irritation, drug use, and tumor, or systemic factors, such as hypertension, hemophilia, and platelet dysfunction, may cause epistaxis; some cases are idiopathic [5,6].

Epistaxis is classified as anterior or posterior epistaxis on the basis of the site where the bleeding originates [7]. The treatment modalities in epistaxis cover a wide spectrum, including follow-up without any intervention, topical drug application, artery ligation, and embolization. The main goal in the treatment of patients is to stop the bleeding as soon as possible and to stabilize the patient's status [3,8].

The aim of this study is to evaluate the etiologic, clinical, and demographic characteristics of patients with epistaxis and to discuss treatment modalities.

Material and Method

Patients who were admitted to our clinic with complaints of epistaxis between December 2014 and December 2015 were included in this cross-sectional study. The archival records of 589 patients were reviewed retrospectively. Among these, 558 patients with sufficient archival records were included in the study group. At least one nosebleed in the patient history was determined as a criterion for the diagnosis of epistaxis. Insufficient archival records resulted in the exclusion of 31 patients from the study. The patients' consent to use their records in scientific studies had been obtained during their admission. The patient data were reviewed retrospectively with respect to the demographics, accompanying systemic disease, drugs used, and cause of epistaxis. Additionally, the localization of active bleeding, treatment modalities, and the number of days for hospitalization were recorded.

The data were analyzed using SPSS for Windows version 15.0 (SPSS Inc., Chicago, IL, USA).

Results

The etiologic factors and demographic data of the patients are summarized in Table 1.

At least one nosebleed was present in the history of each patient. A total of 114 (20.4%) patients had active bleeding at admission whereas 444 (79.6%) had no active bleeding. All patients were examined by anterior rhinoscopy and nasal endoscopy to determine the localization of bleeding. Among the patients with active bleeding, the bleeding site was located anteriorly in 106 (93%) cases, with a posterior site in six (5.3%) cases. Two (1.7%) of the patients with hereditary hemorrhagic telangiectasia had both anterior and posterior epistaxis. Of the patients with active bleeding, 69 (60.5%) were treated with cauterization using a silver nitrate stick or bipolar cautery. Anterior packing was used in 31 (27.2%) patients whereas both anterior packing and cauterization were performed in 10 (8.8%)

Table 1. Patients' etiologic factors and demographic data.

Gender	n (%)
Female	259 (46.4)
Male	299 (53.6)
Age (years)	n (%)
0–18 years	201 (36.0)
18–50 years	170 (30.5)
Over 50 years	187 (33.5)
Etiologic factors	n (%)
Trauma	142 (25.4)
Cardiovascular disease and hypertension	121 (21.7)
Allergic rhinitis	115 (20.6)
Idiopathic	94 (16.9)
Septum deviation	27 (4.8)
Local infections	21 (3.8)
Acne vulgaris	14 (2.5)
Tumoral mass (benign/malignant)	11 (2.0)
Platelet dysfunction	10 (1.8)
Coagulation factor deficiency	3 (0.5)

patients. Additionally, four (3.5%) patients had undergone both anterior and posterior packing.

Overall in the evaluated group, 534 (95.7%) patients were treated as outpatients whereas 24 patients (4.3%) were hospitalized. The average length of stay was six days (3–23 days). Five of the patients who were hospitalized required an erythrocyte suspension transfusion due to low hemoglobin levels. A pediatric patient who was diagnosed with factor deficiency was transferred to the pediatric hematology clinic for follow-up. There was no mortality related to epistaxis or its complications.

Discussion

Epistaxis is one of the most common symptoms faced in the daily practice of otorhinolaryngology emergencies. Although the majority of epistaxis cases are self-limited, some of them require medical and/or surgical interventions [3]. The demographic and etiologic characteristics of the patients who were admitted to our clinic for epistaxis within a one-year period as well as the therapeutic approaches are presented in this report. Epistaxis affects about 10–15% of the population and has many etiologic factors. Local or surgical trauma has been found to be the most common underlying cause in many cross-sectional studies [8]. Nevertheless, trauma was the etiology for 142 (25.4%) patients in the present study. Previous meta-analysis studies have shown that cardiovascular disease and hypertension are the most prevalent systemic etiologic factors [9]. They were also the second-most common underlying cause in our patient group.

Allergic rhinitis is one of the leading causes of recurrent epistaxis. It has been detected in about 20% of patients with epistaxis in previous studies [10]. Allergic rhinitis may cause epistaxis because of direct mucosal damage. Additionally, nasal steroids used to treat allergic rhinitis may give rise to bleeding [11]. Similarly to the literature data, allergic rhinitis was identified as the etiology of epistaxis in 115 (20.6%) patients in our study.

Another important result from our study was that epistaxis was

secondary to acne vulgaris and/or isotretinoin treatment in 14 (2.5%) patients. Several studies have been published about the effects of isotretinoin on nasal mucosa, with increased nasal clearance time being identified as one such outcome [12]. Additionally, in a study examining the side effects of isotretinoin, the epistaxis rate was found to be 22% [13]. Our data and the literature findings support the view that isotretinoin used in the treatment of acne plays an important role in the etiology of epistaxis.

Another group of diseases that has prevalent epistaxis attacks is clotting factor deficiencies. Epistaxis attacks, bleeding from mucosal surfaces (such as gastrointestinal bleeding), and related complications are seen in 60% of these patients [14]. Factor deficiencies were detected in only three (0.5%) patients in the present study group. Bleeding was controlled conservatively in two cases that had previously been diagnosed with factor deficiency. After further examination, a pediatric patient who was diagnosed with factor deficiency was transferred to the pediatric hematology clinic for follow-up and treatment planning.

In sum, epistaxis is one of the most common symptoms faced in the daily practice of otorhinolaryngology emergencies. Although the majority of epistaxis cases are self-limited, life-threatening conditions may occur on rare occasions. We believe that this cross-sectional study contributes to the literature by defining the etiology and treatment planning of epistaxis in our country.

Competing interests

The authors declare that they have no competing interests.

References

- Morgan DJ, Kellerman R. Epistaxis: evaluation and treatment. *Prim Care* 2014;41(1):63-73.
- Rockey JG, Anand R. A critical audit of the surgical management of intractable epistaxis using sphenopalatine artery ligation/diathermy. *Rhinology* 2002;40(3):147-9.
- Traboulsi H, Alam E, Hadi U. Changing Trends in the Management of Epistaxis. *Int J Otolaryngol* 2015;2015:263987.
- Barnes ML, Spielmann PM, White PS. Epistaxis: a contemporary evidence based approach. *Otolaryngol Clin North Am* 2012;45(5):1005-17.
- Kucik CJ, Clenney T. Management of epistaxis. *Am Fam Physician* 2005;71(2):305-11.
- Öztürk K, Şahin M, Midilli R, Karcı B. Delayed Phase Nasal Metastasis of Renal Cell Carcinoma as a Rare Epistaxis Cause. *J Clin Anal Med* 2015;6(1):97-9.
- Douglas R, Wormald PJ. Update on epistaxis. *Curr Opin Otolaryngol Head Neck Surg* 2007;15(3):180-3.
- Shrestha I, Pokharel M, Shrestha BL, Dhakal A, Amatya RC. Evaluation of Etiology of Epistaxis and its Management in Dhulikhel Hospital. *Kathmandu Univ Med J (KUMJ)* 2015;13(49):49-55.
- Kikidis D, Tsioufis K, Papanikolaou V, Zerva K, Hantzakos A. Is epistaxis associated with arterial hypertension? A systematic review of the literature. *Eur Arch Otorhinolaryngol* 2014;271(2):237-43.
- Murray AB, Milner RA. Allergic rhinitis and recurrent epistaxis in children. *Ann Allergy Asthma Immunol* 1995;74(1):30-3.
- Benninger MS. Epistaxis and its relationship to handedness with use of intranasal steroid spray. *Ear Nose Throat J* 2008;87(8):463-5.
- Gorpelioglu C, Ozol D, Sarifakioglu E. Influence of isotretinoin on nasal mucociliary clearance and lung function in patients with acne vulgaris. *Int J Dermatol* 2010;49(1):87-90.
- Goforoushan F, Azimi H, Goldust M. Efficacy of vitamin E to prevent dermal complications of isotretinoin. *Pak J Biol Sci* 2013;16(11):548-50.
- Wiszniewski A, Szczepanik A, Misiak A, Bykowska K, Szopinski P. Prevention of bleeding and hemorrhagic complications in surgical patients with inherited factor VII deficiency. *Blood Coagul Fibrinolysis* 2015;26(3):324-30.

How to cite this article:

Özgür A, Birinci M, Coşkun ZÖ, Terzi S, Erdivanlı ÖÇ, Demirci M, Dursun E. A Cross-Sectional Study of Epistaxis: Etiologic and Clinical Characteristics. *J Clin Anal Med* 2016;7(6): 804-6.